

Swan Canning Estuary Water Quality Monitoring Project

Weekly Water Quality Report

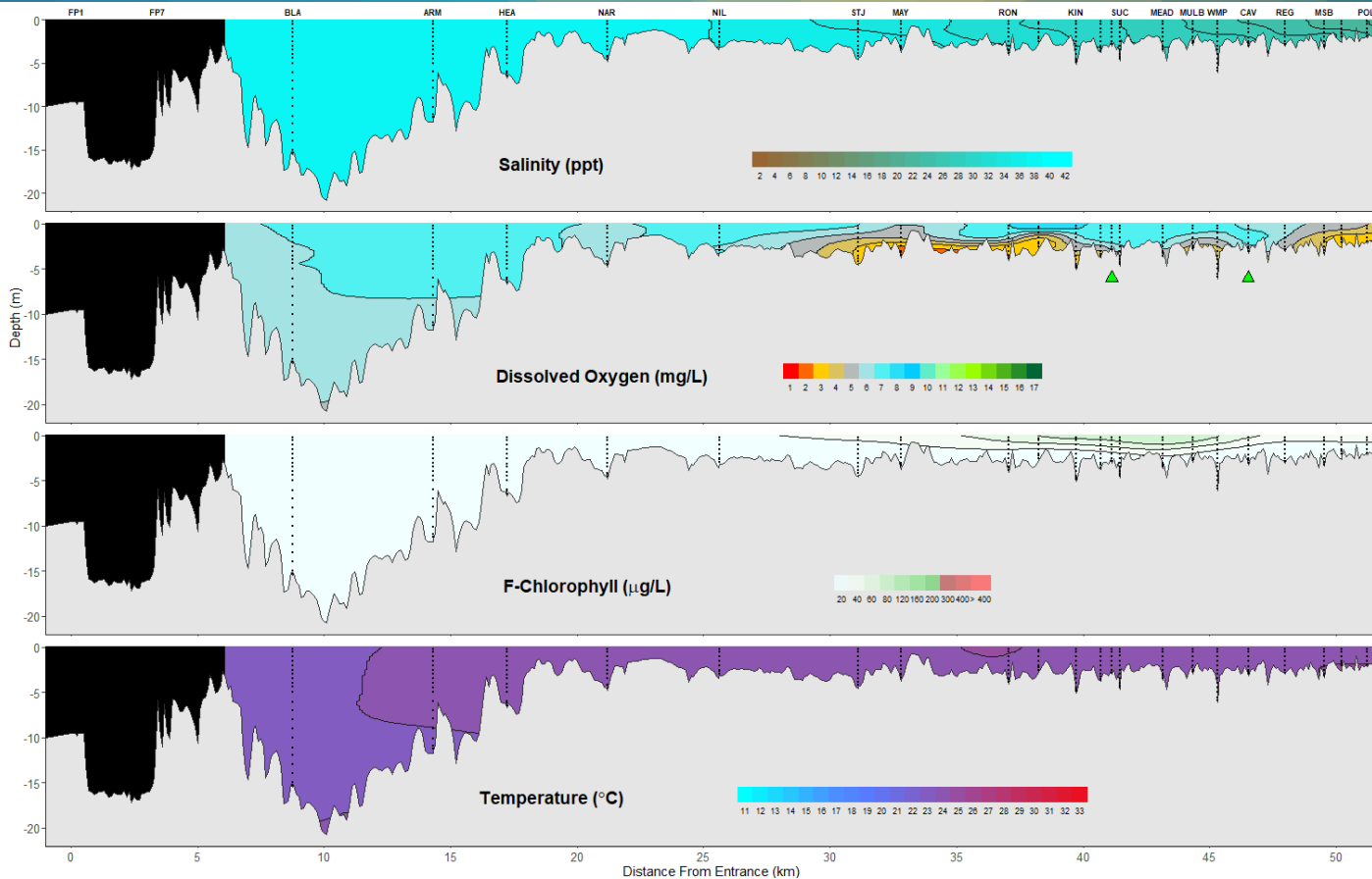
Lower Swan Canning Estuary to Upper Swan Estuary

4 April 2022

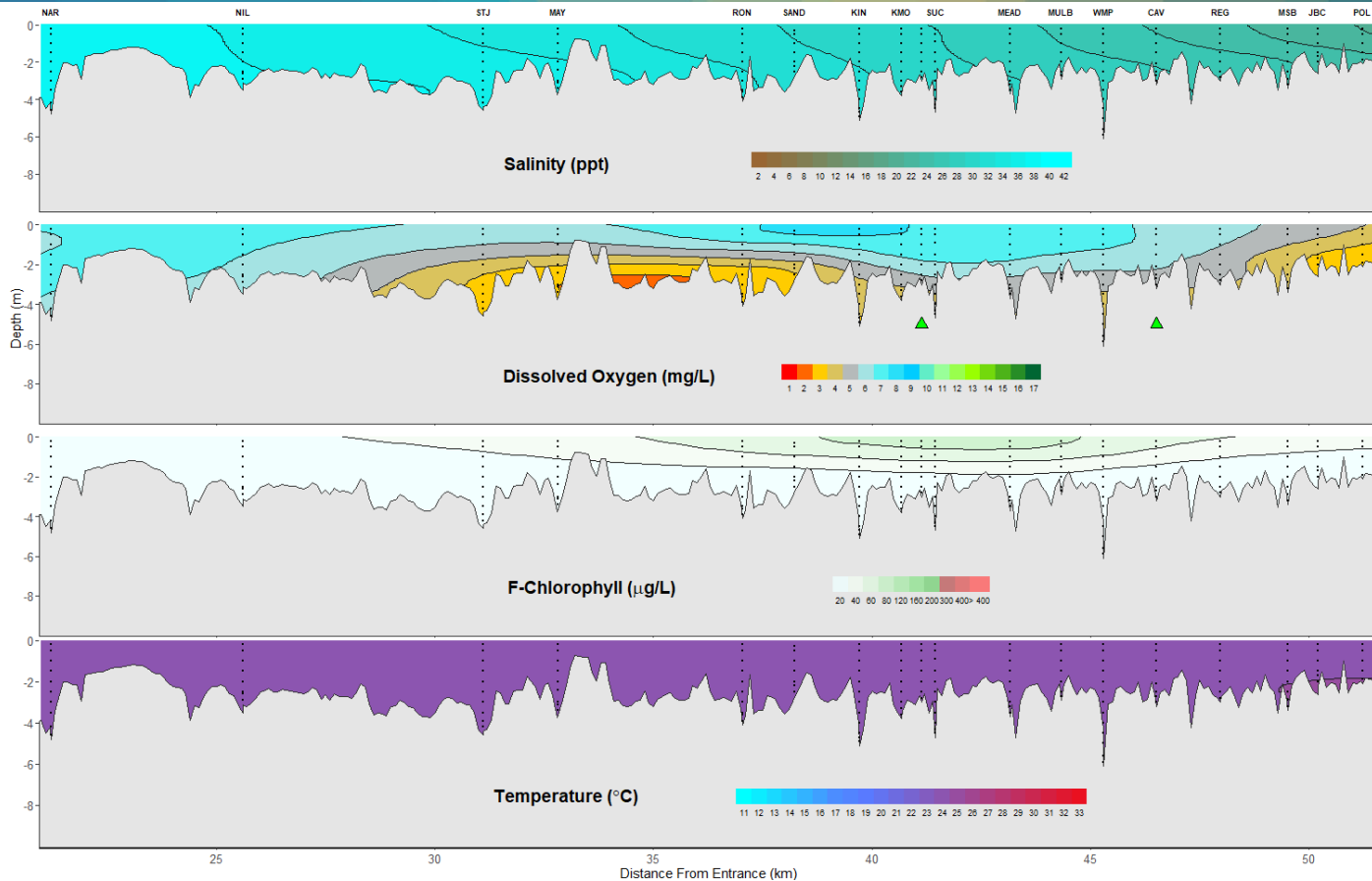
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Swan Canning Estuary- Water Quality Profiles – 4 April 2022



Middle and Upper Swan Estuary- Water Quality Profiles – 4 April 2022



Date: 4 April 2022

Weather & tide conditions: Conditions were overcast with a south easterly breeze of up to 10 knots. The predicted tides at Barrack St were 0.81 m at 12:20 am (high tide), 0.76 m at 4:43 am (low tide) and 1.11 m at 12:59 pm (2nd high tide). Perth recorded no rainfall during the week prior to sampling (Bureau of Meteorology).

Oxygenation: The Guildford and Caversham oxygenation plants were both triggered to provide oxygen during the 24 hours prior to sampling.

Lower Swan Canning Estuary (BLA to NAR): The Lower Swan Canning Estuary was hypersaline, waters were oxygenated or well oxygenated and chlorophyll fluorescence was low throughout this zone. Water temperature ranged from 22.7 to 23.4 °C.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was hypersaline at NIL, saline over hypersaline from STJ to MAY and saline at RON. Surface waters were oxygenated or well oxygenated and bottom waters were low in oxygen at STJ and hypoxic from MAY to RON. Chlorophyll fluorescence was low throughout this zone. Water temperature ranged from 23.6 to 24.1 °C.

Upper Swan Estuary (SAND to POL): The Upper Swan Estuary was saline from SAND to MULB, brackish over saline between WMP and CAV and brackish from REG to POL. Surface waters were oxygenated or well oxygenated from SAND to JBC and low in oxygen at POL. Bottom waters were hypoxic at SAND and low in oxygen from KIN to KMO, MULB to WMP and MSB to POL. Chlorophyll fluorescence was moderate from SAND to KMO and SUC to WMP indicating higher microalgal activity in those areas. Water temperature ranged from 23.5 to 24.0 °C.

NB: Profile plots are visual interpolations of measured parameters only. Detailed data are available at wir.water.wa.gov.au.

Oxygenation Plant Operational Status:

- ▲ Operating for part or all of the 24 hours prior to sampling
- ▲ Operable but not triggered to operate in the 24 hours prior to sampling
- ▲ Inoperable for part or all of the 24 hours prior to sampling

Definitions:

Salinity – fresh <5, brackish 5-25, saline 25-35, hypersaline >35

Dissolved oxygen – well oxygenated >6 mg L⁻¹, oxygenated >4-6 mg L⁻¹, low oxygen >2-4 mg L⁻¹, hypoxic 0.5-2 mg L⁻¹, anoxic <0.5 mg L⁻¹

Chlorophyll fluorescence (summer): low < 50 µg L⁻¹, moderate 50-150 µg L⁻¹, high 150-400 µg L⁻¹, extreme > 400 µg L⁻¹